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Multilayer structure for films, containers etc. for retort sterilisation - comprises thermoplastic layers with oxygen@ barrier layer on both sides of thermoplastic layer.

Patent Assignee: NIPPON SYNTHETIC CHEM IND CO (NISY)

Inventor: TOYOZUMI M; YAMAMOTO T

Patent Family (2 patents, 1 countries)

Patent			Application			
Number	Kind	Date	Number	Kind	Date	Update
JP 8052845	A	19960227	JP 1994212175	A	19940811	199618 B
JP 3452216	B2	20030929	JP 1994212175	A	19940811	200365 E

Priority Applications (no., kind, date): JP 1994212175 A 19940811

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
JP 8052845	A	JA	11	0	
JP 3452216	B2	JA	12		Previously issued patent JP 08052845

Alerting Abstract JP A

A multilayer structure is composed of a thermoplastic resin layer (1), oxygen barrier resin compsn. layers (11) formed on opposite sides of the thermoplastic resin layer (1), and thermoplastic resin layers (111) as inner layers. The thermoplastic resin layer (1) has a moisture permeability (measured at 40(deg)C, 90%RH) of 10-500 g/m² day. The oxygen barrier resin layers (11) comprise (a) saponified ethylene-vinyl acetate copolymer with an ethylene content of 20-60 mole% and a saponification deg. of 90 mole% or higher; (b) an end gp. controlled polyamide type resin of which the number (x) of the COOH end gps. and the number (y) of the CONRR' end gps. (R = 1-22C hydrocarbon gp.; and R' = H or 1-22C hydrocarbon gp.) are controlled with an end gp.

controlling agent to satisfy $(100 \times y)/(x + y)$ up to 5; (c) a hindered phenol type cpd.; (d) an alkali earth metal salt of an aliphatic carboxylic acid; and (e) ethylene bisfatty acid amides, higher fatty acid metal salts, high polymer esters, fatty acid esters, and/or hydrocarbon type cpds.. The wt. ratio of copolymer (a) to resin (b) is 70:30-96:4. The compounding amt. of cpd. (c) to the total amt. of copolymer (a) and resin (b) is 0.01-1 wt.%. The compounding amt. of metal salt (d) to the total amt. of copolymer (a) and resin (b) is 0.5-15 $\mu\text{mol/g}$ on a metal conversion basis. The compounding amt. of cpd. (e) to the total amt. of copolymer (a) and resin (b) is 0.01-1 wt.%. The thermoplastic resin layer (111) has a lower moisture permeability (measured at 40(deg)C, 90% RH) than the thermoplastic resin layer (1).

Also claimed is prodn. of the multilayer structure in which the oxygen gas barrier resin compsn. layer (11) is formed by extrusion-moulding at a resin temp. of 235-260(deg)C.

USE - Used for films, containers, pouches and lid materials suitable to be retort-sterilised.

ADVANTAGE - Gas barrier properties after retort-sterilisation are effectively recovered. The appearance is good, with no gels and fish eyes defects. Long-run mouldability at a resin temp. of 235-260(deg)C is high.

Title Terms /Index Terms/Additional Words: MULTILAYER; STRUCTURE; FILM; CONTAINER; RETORT; STERILE; COMPRISE; THERMOPLASTIC; LAYER; OXYGEN; BARRIER; SIDE

Class Codes

International Classification (Main): B32B-027/28

(Additional/Secondary): B32B-027/00, B32B-027/08, B32B-027/32, B32B-027/34, B32B-027/36, B65D-081/34, C08L-023/08

File Segment: CPI; EngPI

DWPI Class: A17; A23; A92; E19; P73; Q34

Manual Codes (CPI/A-M): A04-G07; A05-F01E; A10-E09B; A11-B07; A12-P01; A12-S06C; E05-A; E10-C04L; E10-D03A; E10-E04; E10-G02H2; E10-J02D

Chemical Indexing

Chemical Fragment Codes (M3):

01 M903 M904 G015 G017 G018 G019 G100 H4 H401 H402 H403 H404 H441
H442

H443 H444 H594 H8 J011 J012 J014 J271 J273 J372 M121 M129 M132 M135
M139 M142 M150 M210 M211 M214 M225 M231 M233 M240 M272 M281 M282
M283
M311 M312 M314 M315 M320 M321 M322 M323 M331 M332 M334 M342 M343
M344

M372 M383 M391 M392 M393 M414 M510 M520 M531 M532 M533 M540 M782
Q130
Q140 R023 R043 9618-B0601-M

02 M903 M904 G017 G019 G100 H4 H402 H442 H8 M1 M111 M210 M211 M214
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M240 M283 M320 M414 M510 M520 M532 M540 M782 Q130 Q140 R023 R043
9618-B0602-M

03 M903 M904 J0 J012 J3 J372 M210 M211 M212 M213 M214 M215 M216 M220
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M342
M383 M391 M416 M620 M782 Q130 Q140 R023 R043 9618-B0603-M

04 M903 M904 A212 A220 A313 A430 A960 C710 J0 J011 J1 J171 M220 M224
M225

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07 M903 M904 H7 H721 H722 H723 H724 H725 M210 M212 M213 M214 M215
M216

M220 M221 M222 M223 M224 M225 M226 M231 M232 M233 M320 M416 M610
M782

Q130 Q140 R023 R043 9618-B0607-M

Specific Compound Numbers: R00326; R00835

Generic (Markush) Compound Numbers: 9618-B0601-M; 9618-B0602-M;

9618-B0603-M; 9618-B0604-M; 9618-B0605-M; 9618-B0606-M; 9618-B0607-M

Derwent Chemistry Resource Numbers: (Linked) 1013-DIS; 829-DIS; 1013; 829

Key Word Indexing

1 1013-DIS 829-DIS

Polymer Indexing

<01>

001 018; G0044 G0033 G0022 D01 D02 D12 D10 D51 D53 D58 D82 R00326-R
1013-R; G0566 G0022 D01 D11 D10 D12 D51 D53 D58 D63 D84 F41 F89
R00835-R 829-R; H0022 H0011; M9999 M2313; S9999 S1285-R; P1150; P1310

002 018; P0635-R F70 D01; S9999 S1285-R; M9999 M2153-R

003 018; N9999 N5970-R; ND07

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Q9999 Q8399-R Q8366; Q9999 Q8388 Q8366; B9999 B3623 B3554; N9999
N6871 N6655; B9999 B4864 B4853 B4740; K9745-R; K9461; B9999 B3178;
B9999 B5027 B5016 B4977 B4740; B9999 B4397 B4240; K9870 K9847 K9790;
B9999 B5276-R

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A999 A771

007 018; 2A-R F35-R D61-R D01; A999 A340-R; A999 A771

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001 018; H0317; P0646 P1934 P0635 F70 D01 D11 D10 D50 D86; S9999 S1285-R

002 018; B9999 B4875 B4853 B4740; K9745-R

003 018; ND01; Q9999 Q7818-R; K9574 K9483; K9701 K9676; K9712 K9676;
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B9999 B5276-R

<03>

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B9999 B5276-R

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001 018; P0839-R F41 D01 D63; A999 A340-R; A999 A782

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002 018; ND01; Q9999 Q7818-R; K9574 K9483; K9701 K9676; K9712 K9676;
Q9999 Q8399-R Q8366; Q9999 Q8388 Q8366; B9999 B3623 B3554; N9999
N6871 N6655; B9999 B4864 B4853 B4740; K9745-R; K9461; B9999 B3178;
B9999 B5027 B5016 B4977 B4740; B9999 B4397 B4240; K9870 K9847 K9790;
B9999 B5276-R

003 018; B9999 B4864 B4853 B4740

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****MULTI-LAYERED STRUCTURE AND MANUFACTURE THEREOF****

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B32B-27/32(B) B32B-27/34(B) B32B-27/36(B) B65D-81/34(B)

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JP08-52845

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